

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number  
**WO 2005/081113 A3**

(51) International Patent Classification<sup>7</sup>: **G06F 12/02**

(21) International Application Number:  
PCT/EP2005/001480

(22) International Filing Date: 14 February 2005 (14.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
04290405.1 13 February 2004 (13.02.2004) EP

(71) Applicant (for all designated States except US): **JALUNA SA** [FR/FR]; 6, avenue Gustave Eiffel, F-78180 Montigny-le-Bretonneux (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BOULE, Ivan**

[FR/FR]; 17, Boulevard Richard Lenoir, F-75011 Paris (FR). **LEBEE, Pierre** [FR/FR]; 18 rue des Genêts, F-60800 Crépy en Valois (FR).

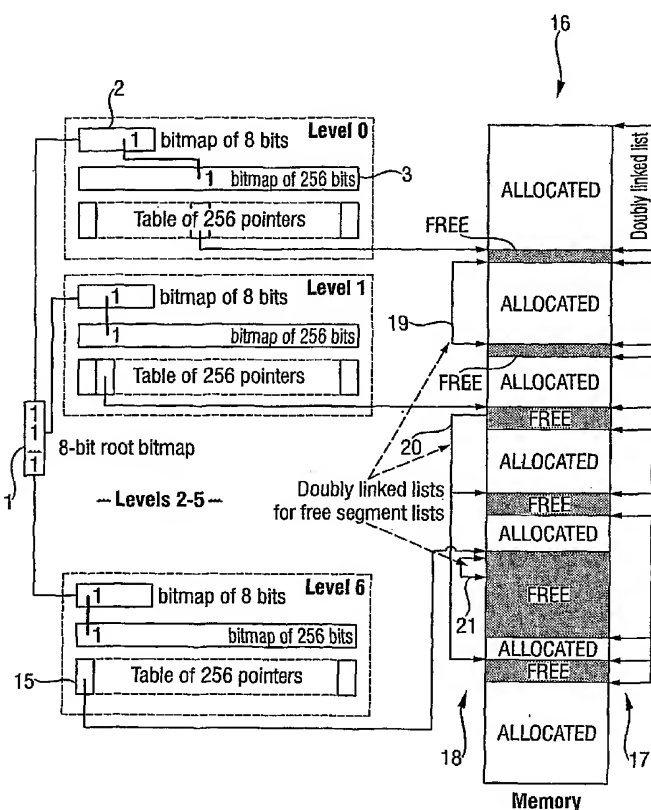
(74) Agent: **RUMMLER, Felix**; R.G.C. Jenkins & Co., 26 Caxton Street, London SW1H 0RJ (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: MEMORY ALLOCATION



(57) Abstract: There is provided a method of managing a data memory in order to improve the processing of memory allocation requests. Memory segments are associated with different levels according to their size. A different granule size to the power of two is defined for each level. The granule size defines the range of segment sizes associated with each level. A multiple-stage bitmap is provided which indicates which of the levels contains free segments and the size of free segments. The bitmap is updated each time a memory segment is freed or allocated. Thereby, a deterministic "Best Fit" approach is provided which permits the allocation and release of memory segments at both task and interrupt level and which reduces memory fragmentation.



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

**(88) Date of publication of the international search report:**  
8 December 2005

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*